

# SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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April 27, 2012

**TO:** Commissioners and Alternates

**FROM:** Steven Goldbeck, Acting Executive Director (415/352-3611 [steveg@bcdc.ca.gov](mailto:steveg@bcdc.ca.gov))  
Jaime Michaels, Coastal Program Analyst (415/352-3613, [jaimem@bcdc.ca.gov](mailto:jaimem@bcdc.ca.gov))

**SUBJECT:** **Staff Recommendation for the Port of Redwood City's BCDC Permit No. 2011.006.00 for the Wharves 1 and 2 Reconstruction Project**  
(For Commission consideration on May 3, 2012)

## Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

### I. Authorization

- A. Subject to the conditions stated below, the permittee, the Port of Redwood City, is granted permission to do the following:

**Location:** In the Bay, within the 100-foot shoreline band, and within a *San Francisco Bay Plan*-designated Port Priority Use area, at the Port of Redwood City's Wharves 1 and 2 and adjacent upland area, at 675 Seaport Boulevard, along the southeast shore of Redwood Creek, in the City of Redwood City, San Mateo County.

**Description: In the Bay:**

1. Remove timber pilings supporting Wharves 1 and 2, and dispose of resulting debris at an authorized location outside the Commission's jurisdiction;
2. Construct, use, and maintain in-kind an approximately 36,500-square-foot (0.84-acre) area of concrete wharf, including a truck ramp and walkway, supported by approximately 200 24-inch concrete piles (600 cubic yards), with associated features, including railings, lighting, bollards, utilities (e.g., power receptacle vaults, hydrants, water piping), mooring facilities, a fender beam and fenders, and a concrete pad for a (future) hopper and conveyor system;
3. Install, use, and maintain in-kind an approximately 920-foot-long concrete seawall and associated riprap (1,200 cubic yards) covering approximately 9,100 square feet;
4. Replace, use, and maintain in-kind a flap gate at an outfall structure at the northeast end of the wharves; and
5. Dispose of debris and excavated soil resulting from demolition, removal, and construction at an authorized location outside the Commission's jurisdiction.



**Within the 100-foot shoreline band:**

1. Remove an approximately 50,000-square-foot deck associated with Wharves 1 and 2 (note: the wharf decking was installed prior to the enactment of the McAteer-Petris Act in 1965 and, therefore, is considered to be within the Commission's 100-foot shoreline band);
  2. Demolish and remove a warehouse and a rail line segment;
  3. Conduct remediation activities and grading;
  4. Construct, use, and maintain in-kind an approximately 5,300-square-foot section of a concrete seawall and associated riprap;
  5. Construct, use, and maintain in-kind an approximately 2,400-square-foot, single-story longshoreman building;
  6. Construct, use, and maintain in-kind approximately 20,700 square feet of a parking lot, an access road, wharf access ramps, and other paved areas;
  7. Install, use, and maintain in-kind utilities, including electrical, water, and sewage; and
  8. Dispose of debris and excavated soil resulting from demolition, removal, remediation and grading at an authorized location outside the Commission's jurisdiction.
- B. This authority is generally pursuant to and limited by the Port of Redwood City's application dated November 18, 2011, including all accompanying and subsequently submitted correspondence and exhibits, subject to the modifications required by conditions hereto.
- C. Work authorized herein must commence prior to June 1, 2015, or this permit will lapse and become null and void. All work authorized must be diligently pursued to completion and must be completed within two years of commencement or by June 1, 2017, whichever is earlier, unless an extension of time is granted by amendment of the permit.
- D. The proposed project will result in 45,600 square feet of Bay fill, inclusive of the 36,500-square-foot pile-supported Wharves 1 and 2, and a shoreline protection system at a 9,100-square-foot area (1,200 cubic yards of solid fill) of the Bay.
- E. The project, as conditioned and required herein, will result in upgrading existing public access areas required and dedicated in Commission Permit Nos. M1998.31.00 and M1987.046.02. The upgrades include removing barriers for disabled visitors at a fishing pier, a bandstand, and along a shoreline pathway, and redesigning an approximately six to ten-foot-wide, 450-foot-long area of a pathway to enhance its "connectivity" to adjacent public areas (Exhibit A).

**II. Special Conditions**

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

**A. Specific Plans and Plan Review**

1. **Construction.** The final plans submitted pursuant to this condition shall generally conform to plans entitled *Wharves 1 & 2 Replacement Project*, prepared by Ben C. Gerwick, Inc. and revised through January 19, 2012. Final plans for the construction

of the structures authorized herein shall be prepared and submitted for Commission review as described below. No changes to the design of the project shall be made without the prior written approval of the Commission staff.

2. **Plan Review.** No work whatsoever shall be commenced pursuant to this authorization until final precise site, demolition, construction staging, engineering, architectural, grading, landscaping, public access, and best management practices plans and any other relevant criteria, specifications, and plan information for that portion of the work have been submitted to, reviewed, and approved in writing by or on behalf of the Commission. To save time, preliminary drawings should be submitted and approved prior to final drawings.
  - a. **Site, Architectural, and Public Access Plans.** Site, demolition, architectural, and public access plans shall include and clearly label the shoreline (Mean High Water Line), the line 100 feet inland of the shoreline, property lines, the boundaries of all areas reserved for public access purposes, details showing the location, types, dimensions, and materials to be used for all structures, irrigation, landscaping, drainage, seating, parking, signs, lighting, fences, paths, trash containers, utilities and other improvements.
  - b. **Engineering Plans.** Engineering plans shall include a complete set of construction drawings and specifications and design criteria. The design criteria shall be appropriate to the nature of the project, the use of any structures, soil and foundation conditions at the site, and potential earthquake-induced forces. Final plans shall be signed by the professionals of record and be accompanied by:
    - (1) Evidence that the design complies with all applicable codes; and
    - (2) Evidence that a thorough and independent review of the design details, calculations, and construction drawings has been made.
  - c. **Preliminary and Final Plans.** Plans submitted shall be accompanied by a letter requesting plan approval, identifying the type of plans submitted, the portion of the project involved, and indicating whether the plans are final or preliminary. Approval or disapproval shall be based upon:
    - (1) Completeness and accuracy of the plans in showing the features required above, particularly the shoreline (Mean High Water or deck edge), property lines, and the line 100-feet inland of the shoreline, and any other criteria required by this authorization;
    - (2) Consistency of the plans with the terms and conditions of this authorization;
    - (3) The provision of the amount and quality of public access to and along the shoreline and in and through the project to the shoreline required by this authorization;
    - (4) Consistency with any existing legal instruments reserving public access areas;
    - (5) Assuring that any fill in the Bay does not exceed this authorization;
    - (6) Consistency of the plans with the recommendations of the Engineering Criteria Review Board;
    - (7) Assuring that appropriate provisions have been incorporated for safety in case of seismic event;

- (8) Assuring that the placement of fill in the Bay will avoid or minimize impacts to the Bay; and
- (9) Assuring that appropriate elevations have been met to prevent overtopping, flooding, and 100-year storm events.

Plan review shall be completed by or on behalf of the Commission within 30 days after receipt of the plans to be reviewed.

- 3. **Conformity with Final Approved Plans.** All work, improvements, and uses shall conform to the final approved plans. Prior to any use of the facilities authorized herein, the appropriate design professional(s) of record shall certify in writing that, through personal knowledge, the work covered by the authorization has been performed in accordance with the approved design criteria and in substantial conformance with the approved plans. No noticeable changes shall be made thereafter to any final plans or to the exterior of any constructed structure, outside fixture, lighting, landscaping, signage, landscaping, parking area, or shoreline protection work without first obtaining written approval of the change(s) by or on behalf of the Commission.
- 4. **Discrepancies between Approved Plans and Special Conditions.** In case of any discrepancy between final approved plans and Special Conditions of this authorization or legal instruments approved pursuant to this authorization, the Special Condition or the legal instrument shall prevail. The permittee is responsible for assuring that all plans accurately and fully reflect the Special Conditions of this authorization and any legal instruments submitted pursuant to this authorization.

#### B. **Public Access**

- 1. **Total Area.** The public access improvements provided by this project shall occur at an area totaling approximately 3,600 square feet (0.83 acres) along an approximately 450-foot-long section of the shoreline owned and managed by the Port of Redwood City, at an area generally shown on Exhibit A. As previously required in BCDC Permit Nos. M1998.31.00 and M1987.046.02, the areas to be improved as conditioned and required herein, shall remain available exclusively to the public for unrestricted public access for walking, bicycling, sitting, viewing, picnicking, boating, fishing, and related purposes. All public access improvements including, but not limited to, paving, lighting, signage, landscaping, railings, and trash containers, shall be subject to final plan review and approval pursuant to Special Condition II-A of this permit.
- 2. **Improvements.** Upon completion of the wharf improvement project authorized herein or by June 1, 2017, whichever is earlier, the permittee shall complete and make available to the public, the following barrier free improvements, at locations generally shown on Exhibit A:
  - a. **Fishing Pier, Bandstand, and Adjoining Shoreline Pathway.** Removal of barriers for disabled visitors at a fishing pier, bandstand, and adjoining pathway and reconstruction of these barrier free facilities and associated public access improvements; and
  - b. **Shoreline Pathway.** Redesign, relocation, and implementation of an approximately six to ten-foot-wide, 450-foot-long barrier free section of a pathway to enhance its "connectivity" to adjacent public areas and to include any associated public access improvements.
- 3. **Review and Approval of Final Plans.** No work related to the above-described public access improvements shall be commenced until final precise public access plans and any other relevant criteria, specifications, and plan information have been reviewed,

and approved in writing by or on behalf of the Commission pursuant to Special Condition II.A of this permit. To save time, preliminary drawings should be submitted to and preliminarily approved by Commission staff prior to preparation and submittal of final drawings.

4. **Amendments to Related BCDC Permits.** To implement the above-described public access improvements, prior to the commencement of the project authorized herein and no later than January 1, 2013, the permittee shall apply for and receive amendments to BCDC Permit Nos. M1998.31.00 and M1987.046.02, which require the public access areas generally described above.

- C. **Pile Driving Restrictions and National Marine Fisheries Service Consultation.** In conducting pile-driving at the project site, the permittee shall include the following measures to minimize impacts on endangered or special status fish species: (a) the design-build team shall abide by the Interim Criteria for Injury to Fish from Pile Driving Activities, which limit construction-related sound exposure to 206 decibels (dB) peak and 187 dB accumulated sound exposure level for all listed fish weighing two grams or more; (b) the design-build team shall monitor the underwater sound levels at approximately 33 feet (10 meters) distance from the project site for the first five piles driven or for two full days of pile driving, whichever is greater, to demonstrate this criterion is met, and retain a qualified biological monitor to observe the installation of the piles during this time period to observe response from fish; (c) if needed to comply with the sound levels described above, the design-build team shall use a cushion, bubble curtain, jetting, or other methods to attenuate the sound at the project site; and (d) if the sound level criteria are exceeded during the demonstration, the permittee's contractor will revise sound attenuation methods and monitor an additional five piles or for two days of pile driving, whichever is greater, until demonstration of compliance is obtained, and the demonstrated methods shall be used for the remainder of the pile driving.

Prior to project commencement, the permittee shall provide the Commission staff with the National Oceanic Atmospheric Administration National Marine Fisheries Service (NMFS) informal consultation. Should the final consultation result in measures substantively different from those cited above, prior to project commencement, the permittee shall seek an amendment to this permit to rectify any discrepancies and allow for implementation of additional measures.

- D. **Seismic Instrumentation Plan.** Prior to the commencement of work authorized herein, the permittee shall develop and submit a seismic instrumentation plan for review and final approval by BCDC's Staff Engineer. The plan shall include, at a minimum, the number, type, and location of sensors to be placed at the project site, information on the transmission and recording of signals from the sensors, and a plan that provides for the long-term maintenance of the seismic instrumentation and includes the party or parties responsible for maintaining the instrumentation and gathering and interpreting the data collected into the future.
- E. **Engineering Seismic Criteria.** The permittee shall ensure that the Commission's ECRB-reviewed and -approved seismic criteria are applied throughout the design-build stage of the project authorized herein. If these seismic criteria change, the permittee shall inform Commission, return to the ECRB for discussion and concurrence regarding new or revised criteria, and shall not proceed with the project authorized herein unless and until ECRB review and concurrence is complete.
- F. **Future Vertical Extension of Seawall.** Once sea level reaches an elevation such that combined with the 100-year tide, the 100-year flood, and the significant wave height, would cause overtopping of the seawall authorized herein, the permittee shall raise the height

of the seawall to prevent flooding at the project site. Prior to extending the height of the seawall, the permittee shall provide engineering plans for review and approval by or on behalf of the Commission in conformance with the plan review and approval process described in Special Condition II.A of this permit.

- G. **Best Management Practices.** To ensure protection of Bay resources, the permittee shall perform all construction operations in a manner so as to prevent construction materials from falling into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material. In addition, the following conditions apply:
1. **Protection of Clapper Rail.** For construction occurring in 2012, pile driving shall not occur until after August 31, 2012, the end of the clapper rail nesting season; and in 2013 (and thereafter), pile driving shall cease at the beginning of January, two weeks before clapper rail surveys are typically initiated and pile driving shall not occur during clapper rail breeding season, between February 1 and August 31, unless surveys show that rails are not present within 750 feet of the project site. In the event that the U.S. Fish and Wildlife Service (USFWS) determines that these scheduling restrictions should be revised or are no longer necessary, the permittee shall provide the Commission staff with evidence of the USFWS decision and the Executive Director shall determine that conducting work outside of the above-described restrictions would be consistent with the Commission's laws and policies and provide authorization to the permittee.
  2. **Lighting.** All lighting installed at Wharves 1 and 2 shall be designed to not increase light pollution on tidal marsh habitat at Bair or Greco Islands.
  3. **Protection of Special Status Animal Species.** To minimize potential impacts to various fish and wildlife resources at or near the site, the permittee shall: (a) establish construction setbacks between the project site and the marsh areas located across Redwood Creek—a minimum of 100 feet and, where possible, up to 300 feet; (b) apply Best Management Practices (BMPs) to maintain water quality and prevent erosion at the project site, e.g., by using silt fencing and straw wattles; (c) install lighting fixtures with down-cast lighting, shields, and visors, and, if feasible, motion-sensitive detectors to mitigate potential lighting impacts on wildlife, particularly on migrating birds; (d) operate machinery involved with the installation of riprap from a dry-land area; (e) comply with a General National Pollution Discharge Elimination System (NPDES) permit, which includes BMPs to avoid degradation of aquatic habitat by maintaining water quality and controlling erosion; and (f) comply with the San Francisco Bay Regional Water Quality Control Board's certification for the project authorized herein.
  4. **Creosote Treated Wood.** No pilings or other wood structures that have been pressure treated with creosote shall be used in any area subject to tidal action in the Bay or any certain waterway, in any salt pond, or in any managed wetland within the Commission's jurisdiction as part of the project authorized herein.
- H. **Riprap Material.** Riprap material shall be either quarry rock or specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the U. S. Army Corps of Engineers. The material shall be generally spheroid-shaped. The overall thickness of the slope protection shall be no more than three feet measured perpendicular to the slope. Use of dirt, small concrete rubble, concrete pieces with exposed rebar, large and odd shaped pieces of concrete, and asphalt concrete as riprap is prohibited. Further, riprap material shall be

placed so that a permanent shoreline with a minimum amount of fill is established by means of an engineered slope not steeper than two (horizontal) to one (vertical). The slope shall be created by the placement of a filter layer protected by riprap material of sufficient size to withstand wind and wave generated forces at the site. Regarding riprap plans:

1. **Design.** Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design of the shoreline protection improvements authorized herein.
2. **Plan Review.** No work whatsoever shall be commenced on the shoreline protection improvements authorized herein until final riprap plans have been submitted to, reviewed, and approved in writing by or on behalf of the Commission. The plans shall consist of appropriate diagrams and cross-sections that (a) show and clearly label the +2.0 feet Mean Lower Low Water (MLLW) contour line, property lines, grading limits, and details showing the location, types, and dimensions of all materials to be used, (b) indicate the source of all materials to be used, and (c) indicate who designed the proposed shoreline protection improvements and their background in coastal engineering and familiarity with the Commission's concerns. Approval or disapproval of the plans shall be based upon (a) completeness and accuracy of the plans in showing the features required above, (b) consistency of the plans with the terms and conditions of this permit, (c) assuring that the proposed fill material does not exceed this permit, (d) the appropriateness of the types of fill material and their proposed manner of placement, and (e) the preparation of the plans by professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes. All improvements constructed pursuant to this permit shall conform to the final approved plans. No changes shall be made thereafter to any final plans or to the constructed shoreline protection improvements without first obtaining written approval of the change(s) by or on behalf of the Commission.
3. **Maintenance.** The shoreline protection improvements authorized herein shall be regularly maintained by, and at the expense of the permittee, any assignee, lessee, sublessee, or other successor in interest to the project. Maintenance shall include, but not be limited to, collecting any riprap materials that become dislodged and repositioning them in appropriate locations within the riprap covered areas, replacing in-kind riprap material that is lost, repairing the required filter fabric as needed, and removing debris that collects on top of the riprap. Within 30 days after notification by the staff of the Commission, the permittee or any successor or assignee shall correct any maintenance deficiency noted by the staff.
  - I. **In-Kind Repairs and Maintenance.** Repair and maintenance work shall be confined to existing structural footprints, shall consist of in-kind repairs and replacement only, and shall not result in the enlargement of any structures authorized herein. Any in-kind repairs and maintenance of all areas shall only use construction material that is approved for use in San Francisco Bay. Construction shall only occur during current approved months during the year to avoid potential impacts to fish and wildlife. Commission staff should be contacted to confirm current restrictions.
  - J. **Certification of Contractor Review.** Prior to commencing any grading, demolition, or construction, the general contractor or contractors in charge of that portion of the work shall submit written certification that s/he has reviewed and understands the requirements of the permit and the final BCDC-approved plans, particularly as they pertain to any public access or open space required herein, or environmentally sensitive areas.

- K. **Recording.** The permittee shall record this permit or a notice specifically referring to this permit on all parcels affected by this permit with the City and County of San Mateo within 30 days after execution of the permit issued pursuant to this authorization and shall, within 30 days after recordation, provide a copy of the recorded permit to the Commission.

### III. Findings and Declarations

This authorization is given on the basis of the Commission's findings and declarations that the work authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan* ("Bay Plan"), the *San Francisco Bay Area Seaport Plan* ("Seaport Plan"), the California Environmental Quality Act (CEQA), and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

- A. **San Francisco Bay Plan Priority Use Area and Bay Fill.** The project is located within an area designated for port priority use in Bay Plan Map 6, which is accompanied by a site-specific policy (No. 9) stating, in part: "Expand marine terminals and water-related industries. Some fill may be needed." The Commission may allow fill when it meets the requirements identified in Section 66605 of the McAteer-Petris Act, which states, in part, that: (a) fill "should be limited to water-oriented uses (such as ports); (b) fill in the Bay should be approved only when "no alternative upland location" is available; (c) fill should be "the minimum amount necessary to achieve the purpose of the fill"; (d) "the nature, location, and extent of any fill should be such that it will minimize harmful effects to the Bay area, such as, the reduction or impairment of the volume, surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources, or other conditions impacting the environment..."; (e) "fill [should] be constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters"; and (f) "fill should be authorized when the applicant has such valid title to the properties in question that he or she may fill them in the manner and for the uses to be approved."

In the Commission's Bay jurisdiction, the project will involve the installation, use, and maintenance of a pile-supported, 36,500-square-foot (0.84-acre) wharf system for port uses, a shoreline protection system covering approximately 9,100 square feet, and a tide control structure at a drainage ditch. The 50,000-square-foot (1.15-acre), pile-supported timber wharves and flood control features, scheduled for replacements are located in the Bay. However, these facilities were built before the enactment of the McAteer-Petris Act in 1965 and, thus, the existing wharf deck and the structures on or above the deck are located within the Commission's 100-foot shoreline band. Therefore, the reconstruction of Wharves 1 and 2 will result in approximately 45,600 square feet of new Bay fill. Upon completion of the project authorized herein, a 4,400-square-foot area of the Bay previously covered by the existing Wharves 1 and 2 will be exposed.

1. **Water-Oriented Use, Alternative Upland Location, Minimum Fill Necessary, and Valid Property Title.** At a site in the Bay to which the Port of Redwood City ("Port" or "permittee") holds title, an existing timber wharf nearing the end of its useful design life will be reconstructed. According to the Port: "[th]e proposed wharves will consist of a cast-in place concrete deck supported by piles. The existing ship fender line will be maintained and the new wharf will support vessels off-loading at the existing hopper and conveyor system. In addition, the new wharf will be designed to support a [future] conveyor [system]...[and ultimately] the aggregate berth will be further separated from the cement berth allowing vessels to call simultaneously at each berth." The re-built wharves will also accommodate truck, crane, and forklift loads, and vessels whose depth is accommodated at the adjacent federally-dredged



navigation channel at Redwood Creek. At the northern and southern ends of the site, a new seawall will be constructed immediately upland of an existing berm, and continue at the rear of the wharves. New riprap will be placed in front of the seawall to provide protection erosion. Additionally, a flap gate will be replaced at a drainage ditch to collect stormwater and prevent tidal water from entering the upland area.

The permittee states that the project will “provide structures essential to the mooring, berthing, and unloading of bulk cargo carriers” at an existing port, a water-oriented use identified in Section 66605 of the McAteer-Petris Act. Because these structures require an open-water location, they have no upland alternative. The permittee also states that: “[the project] is the minimum [fill] necessary to achieve the operational goals of the project while at the same time complying with the California Building Code. The project will have a net decrease in the shadow area relative to the existing wharves, reducing the impact on the surface area of the Bay. The project is being designed by licensed Civil, Structural, and Geotechnical engineers to afford reasonable protection against seismic, storm, and flood conditions.”

At the rear of Wharf 1, the base of the new seawall will be approximately at or just below Mean High Water (MHW), and in the Commission’s Bay jurisdiction. The permittee states that: “...the seawall along this portion of the alignment [would] protect the existing upland areas from flooding. Moving the seawall further upland would adversely affect the use of the site as the land located on the water side of the seawall would no longer be accessible.” The remainder of the seawall at the northern and southern ends of the site will be located above MHW.

2. **Effects on Bay Resources.** A variety of habitat types are located in the project vicinity, including tidal flat and saline emergent wetland at the nearby Don Edwards National Wildlife Refuge (NWR). The closest tidal marsh is located at Bair Island, approximately 650 feet from the project site across Redwood Creek. These habitat types are associated with fish and wildlife protected under federal and state endangered species laws. Fish species listed under the federal and state Endangered Species Act (ESA) known or likely to occur in the project area and, thus, potentially affected by the project include: Central Valley spring-run Chinook salmon (CSEA), Sacramento River winter-run Chinook salmon (CSEA), and fall/late fall-run Chinook salmon (CSEA). California coast steelhead located at or near the project site is listed as a threatened species under the federal ESA. Pacific herring regulated by the state Department of Fish and Game (DFG) belongs to an important Bay commercial fishery, and could spawn at the project site’s rocky shore and at pier pilings. Species associated with federally-protected Essential Fish Habitat (EFH), which are known or likely to occur at the project site include: California coast steelhead, Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, fall/late fall-run Chinook salmon, and Pacific herring. According to the Draft Environmental Impact Report (DEIR) (certified as final on July 15, 2010) for the project, the potential for occurrence of the following federally listed-species at or near the project site is “low”: Green sturgeon, California clapper rail, western snowy plover, and salt marsh harvest mouse. The channel adjacent to Wharves 1 and 2 and sloughs at Bair Island provide potential habitat for the federally-endangered California least tern.

The activities in the Bay authorized herein with potential impacts on fish and wildlife species include wharf demolition and reconstruction, and installation of a shore-line protection system. Impacts associated with these activities, include temporary water quality degradation, increased water turbidity, harmful sound pressure levels from pile-driving, short-term loss of benthic and fishery habitat, noise, and potential loss of roosting and breeding area for special-status bat species.

On March 23, 2012, the San Francisco Bay Regional Water Quality Control Board issued a Water Quality Certification for the Wharves 1 and 2 project certifying that the project will comply with the applicable provisions of the state Clean Water Act. On March 27, 2012, the U.S. Fish and Wildlife Service (USFWS) concluded an informal Section 7 consultation finding that the project “is not likely to adversely affect” the California clapper rail, the salt marsh harvest mouse, the western snowy plover, or the California least tern due to the absence of suitable habitat at or in the immediate vicinity of the project site and proposed construction and operation measures to minimize potential impacts to species of concern. On April 9, 2012, the NOAA’s Fisheries Service (NMFS) concluded its informal consultation regarding potential impacts of the project on Essential Fish Habitat and determined that “the proposed action would adversely affect EFH for various federally managed fish species”, but the resulting decrease in over-water shading and removal of creosote pilings would “benefit” EFH and, thus, did not recommend any EFH conservation measures.

At the time of mailing the Staff Recommendation, the NMFS had not officially completed its consultation regarding potential pile-driving impacts on endangered or special status fish species. However, NMFS indicated that the Port’s technical specifications regarding minimization measures to be incorporated during pile-driving impacts on endangered or special status fish species to staff that the informal consultation would likely be adequate to complete its informal consultation for the project and finalize its consultation prior to the Commission public hearing on May 3, 2012. Special Condition II.C requires that the permittee comply with the specific measures (identified below in Section II.F) and provide the Commission staff with the NMFS final informal consultation prior to project commencement.

3. **Accordance with Sound Safety Standards.** The pile-supported Wharves 1 and 2 and other Bay fill authorized herein were designed in accordance with sound safety standards by licensed engineers. According to the *Wharf Structural Design* (January 2012) for the project, “[t]he new wharf deck and pile layout is expected to meet the seismic design criteria of the ‘Port of Long Beach Wharf Design Criteria.’” The Commission’s Engineering Criteria Review Board (ECRB) reviewed the design criteria for the project on February 16, 2012, and concurred with the project’s structural and geotechnical design criteria. The ECRB recommended that seismic instrumentation be installed at the wharves. Special Condition II.D requires the permittee to install instrumentation at Wharves 1 and 2, and requires the permittee to provide an instrumentation plan to the Commission staff and/or ECRB for plan review and approval prior to project commencement. The ECRB also requested assurance that the approved seismic criteria apply throughout the final stages when a design-build engineering team will assume responsibility for the project. Special Condition II.E requires the permittee to return to the ECRB for further discussion and concurrence regarding seismic criteria in the event the engineering criteria change for the design-build project phase.

For all the reasons listed above, the Commission finds that the project, as conditioned, is consistent with the Bay Plan priority use designation for the project site, and the Commission’s law and policies regarding fill in the Bay.

- B. **Ports and San Francisco Bay Area Seaport Plan.** The Commission’s Bay Plan Port Policy No. 1 states, in part, that: “Port planning and development should be governed by the policies of the Seaport Plan....[including] expansion and/or redevelopment of port facilities at...Redwood City...” The Bay Plan Port Policy No. 2 states: “Some filling...will be required to provide for necessary port expansion, but any permitted fill or dredging should be in accord with the Seaport Plan.” According to the Commission’s Seaport Plan

(as amended through January 2007), the Port of Redwood City “consists of four deep water berths along the Redwood Creek Channel, and handles mainly dry bulk [e.g., cement] and neo-bulk [automobiles] cargoes.” Based on annual cargo throughput projections, the Seaport Plan estimates that by 2020, total dry bulk throughput at Wharves 1 and 2 should be approximately 1.3 million metric tons. The Seaport Plan policies provide that: “The Port should reallocate the land within its jurisdiction to obtain the most efficient storage and maximum maritime cargo throughput. All of the land within the port priority use designation should be used for maritime activities, consistent with the definition of port priority use areas.”

In 2006—a year representing typical throughput volumes at Wharf 1—approximately 767,350 metric tons of commodities passed through Wharf 1. The Port’s potential capacity is 1,680,000 metric tons annually or approximately 220 percent above its 2006 throughput, but the recent economic downturn and the physical condition of Wharves 1 and 2 have interfered with meeting these goals. The project, which will result in approximately 45,600 square feet of fill in the Bay—a 4,400-square-foot net increase in open water area—will modernize the Port’s facilities allowing it to better serve its tenants and customers and achieve its projected throughput capacity.

The Commission finds that the project, as conditioned, is consistent with the policies in Bay Plan regarding Ports and the Seaport Plan policies for the Port of Redwood City.

- C. **Safety of Fills.** The Bay Plan Safety of Fills Policy No. 1 states, in part, that the Commission’s Engineering Criteria Review Board is “empowered to: (a) establish and revise safety criteria for Bay fills and structures thereon; (b) review all except minor projects for the adequacy of their specific safety provisions, and make recommendations concerning these provisions; (c) prescribe an inspection system to assure placement and maintenance of fill according to approved designs...; and (f) gather, and make available performance data developed from specific projects.” The Safety of Fills Policy No. 2 states, in part, “no fill or building should be constructed if hazards cannot be overcome adequately for the intended use in accordance with the criteria prescribed by the Engineering Criteria Review Board.” Policy No. 3 provides, “[t]o provide vitally needed information on the effects of earthquakes on all kinds of soils, installation of strong-motion seismographs should be required on all future major land fills. In addition, the Commission encourages installation of strong-motion seismographs in other developments on problem soils, and in other areas recommended by the U.S. Geological Survey, for purposes of data comparison and evaluation.” Policy No. 4 states, in part, “Adequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project. The Commission may approve fill that is needed to provide flood protection for existing projects and uses. New projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity....”

The Commission’s ECRB reviewed the project and determined that the seismic safety criteria are adequate. As stated previously, Special Condition II.D of this permit requires the permittee to install instrumentation at Wharves 1 and 2, and requires the permittee to provide an instrumentation plan to the Commission staff for review and approval prior to project commencement.

Mean High Water (MHW) at the project site is +7.59 feet MLLW. The 100-year flood level at the project site is +11.2 feet MLLW.<sup>1</sup> Based on sea level rise values consistent with the California Climate Action Team's *State of California Sea-Level Rise Interim Guidance Document* and the publications of Vermeer and Rahmstorf, the permittee developed the following sea level rise values for the site:

Port of Redwood City's Estimate of Future Sea Level Rise			
Year (horizon)	Lower range [ft]	Mean value [ft]	Upper range [ft]
2020 (10 years)	0.25	0.50	0.75
2030 (20 years)	0.41	0.61	0.81
2060 (50 years)	1.11	1.53	1.96
2110 (100 years)	2.58	4.17	5.75

The permittee used the mean range of these numbers to estimate that sea level rise could be an additional 1.53 feet by 2060.<sup>2</sup> The projected life span of the project is 50 years or through 2060. Combined with a 100-year flood level of +11.2 feet MLLW, the permittee designed the project authorized herein to withstand water levels of up to +12.7 feet MLLW by 2060.

According to the permittee: "The wharf structure is designed considering sea level rise. This was considered in the wharf deck elevation selection and in the fender elevation selection. The wharf top of deck elevation is 16.0 ft MLLW and soffit elevation is 14.5 ft MLLW, both well above the design tide, surge, and sea level rise elevation of 12.7 ft MLLW. The fender elevation was selected to accommodate both current and future design levels. Since the fender elevation is fixed, the application of berthing load is also fixed regardless of water elevation. The 100 year extreme storm condition significant wave height is 0.9 ft. As is apparent, the site is sheltered and subjected to a small fetch, resulting in relatively small wave events. The load associated with a 0.9 ft wave, as well as the maximum 1.8 ft wave, is insignificant in comparison with other lateral loads, such as berthing, mooring, and seismic. Therefore, no consideration of wave action load is required in the wharf structural design."

The top of the seawall is designed to a height of +13.0 feet Mean Lower Low Water (MLLW) to address projected sea level rise at 2060 in addition to the 100-year storm event. The fill associated with the flood protection system will protect port-related facilities at an area designated for and currently used for such operations. According to the permittee: "The significant wave height of 0.9 ft is measured from trough to crest of wave. Evidence has shown that the equivalent increase relative to the still water elevation is about 70% of the significant wave height. Therefore, the crest of the significant wave will be about 0.6 ft above the still water design elevation. Overtopping of the 13.0 ft MLLW seawall due to the 100 year significant wave and 100 year tide plus surge event will occur once approximately 1.2 ft of sea level rise has occurred. This can be seen by summing sea level rise (1.2 ft), 100 year tide and surge event (11.2 ft MLLW), and 100 year significant wave still water height (0.6 ft) which would equal the level of protection

<sup>1</sup> The Federal Emergency Management Agency's (FEMA) map shows the Base Flood Elevation (BFE) at +11.5 feet MLLW. The difference between the Port's 100-year flood elevation and FEMA's BFE is 0.3 feet. According to the permittee, this "is an excellent match statistically and validates our 100 year event calculation. The reason for the difference is that our analysis leverages more recently available data. The FEMA map reference is the standard flood map available for the project site on the FEMA website. The map ID is 0603250009B and is dated 05/17/1982."

<sup>2</sup> The mean range is half way between the low range estimate and the high range estimate. It should be noted that this compares to the estimate of 1.33 feet (16 inches) at 2050 used by the Commission staff in the *Living With a Rising Bay* report.

of 13.0 ft MLLW. Utilizing the mean value of BCDC's range of sea level rise projections, this is anticipated to occur around 2050." The seawall is designed to allow for a vertical extension, when needed. Special Condition II.F requires the permittee to raise the seawall height once the sea level reaches an elevation such that the 100-year tide and the 100-year flood events in addition to the significant wave height is expected to cause overtopping of the structure. In addition, drainage features located behind the seawall will provide flooding relief.

In addition, as designed, the permittee will install rock riprap at the base and bayward of the seawall—mostly above MHW—to offer protection against erosion. At upland areas, the finished floor elevation of the longshoremen's building and associated parking lot will be +13 feet MLLW to match the protection offered by the seawall.

Pursuant to Special Condition II.A, the permittee is required to provide final engineering (and other) plans for review and approval by or on behalf of the Commission prior to commencement of work authorized herein, thereby ensuring that the as-built project conforms with the design authorized herein.

The Commission finds that the project, as conditioned, will be consistent with the Bay Plan policies regarding Safety of Fills.

- D. **Shoreline Protection.** The Commission's Bay Plan Shoreline Protection Policy No. 1 states, in part, that: "New shoreline protection projects and the maintenance or reconstruction of existing projects and uses should be authorized if: (a) the project is necessary to provide flood or erosion protection for (i) existing development, use or infrastructure, or (ii) proposed development, use or infrastructure that is consistent with other Bay Plan policies; (b) the type of the protective structure is appropriate for the project site, the uses to be protected, and the erosion and flooding conditions at the site; (c) the project is properly engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account; (d) the project is properly designed and constructed to prevent significant impediments to physical and visual public access; and (e) the protection is integrated with current or planned adjacent shoreline protection measures. Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design." Policy No. 2 states, in part: "Riprap revetments...should be constructed of properly sized and placed material that meet sound engineering criteria for durability, density, and porosity. Armor materials used in the revetment should be placed according to accepted engineering practice, and be free of extraneous material, such as debris and reinforcing steel. Generally, only engineered quarrystone or concrete pieces that have either been specially cast, are free of extraneous materials from demolition debris, and are carefully selected for size, density, and durability will meet these requirements." The Bay Plan Shoreline Protection Policy No. 3 states: "Authorized protective projects should be regularly maintained according to a long-term maintenance program to assure that the shoreline will be protected from tidal erosion and flooding and that the effects of the shoreline protection project on natural resources during the life of the project will be the minimum necessary." Bay Plan Shoreline Protection Policy No. 5 states: "Adverse impacts to natural resources and public access from new shoreline protection should be avoided. Where significant impacts cannot be avoided, mitigation or alternative public access should be provided."

The shoreline protection system will provide flood and erosion control protection to port-related facilities at an area used for such operations and at a Bay Plan-designated Port Priority Use site. According to the permittee, taking into account a 100-year flood event and projected sea level rise, the seawall and riprap are engineered to protect the project site through 2060. An active port area, the site is not and will not be open to the

general public for recreational or viewing purposes. However, the applicant will provide in-lieu access improvements, as discussed below. Pursuant to Special Condition II.H, the permittee will install properly sized and placed riprap material, maintain the shoreline protection system, and undergo final engineering plan review and approval by or on behalf of the Commission.

According to the permittee: "To the south of the project site is Wharf 3. This is a concrete pile supported wharf with two-access ramps back to shore. The shoreline protection at Wharf 3 is very similar to that currently in place at Wharves 1 and 2, a berm with riprap protection. The proposed seawall will terminate at Wharf 3's northern access ramp. Since the proposed seawall is aligned with the crest of the existing berm, it is integrated into the current shoreline protection along the adjacent site at Wharf 3. While no specific, future shoreline protection is currently planned for Wharf 3, should such a project be undertaken, it will be relatively straightforward to augment the existing berm at Wharf 3 with a seawall or other type of improvement to tie in with the proposed seawall at Wharves 1 and 2. Therefore, the proposed new seawall will be integrated into the current shoreline protection at Wharf 3 and also has the ability to be integrated into future planned shoreline protection at the site. To the north of the project site is the Cemex cement terminal. This terminal also has similar slope protection to the Wharves 1 and 2 sites which consists of a berm protected by riprap, however it was installed more recently. The proposed seawall at the Wharves 1 and 2 projects will terminate at the property boundary between the sites. Since the proposed seawall is aligned along the crest of the berm, it will tie into the current shoreline protection at the adjacent site. The proposed seawall could also be tied into a future shore protection project at the Cemex site. If water were to bypass the proposed seawall, some flooding of low lying upland areas would be anticipated, primarily portions of the existing road and existing stockpile yard. No flooding of the proposed improved areas, for example the parking lot and longshoreman's building, would occur as they are being constructed above the design water elevation."

Although rock slope protection and seawalls can modify shoreline and nearshore habitat, the project site has been in port use for seventy-five years and, as a result, no marsh vegetation is present at the site. A significant portion of the riprap will be placed atop existing rock to provide enhanced protection from erosion. Lastly, a majority of the area affected by the seawall will be located upland of an existing berm and outside of the Bay (above MHW).

The Commission finds that the project, as conditioned, will be consistent with the Bay Plan policies regarding Shoreline Protection.

- E. **Climate Change.** The Bay Plan Climate Change Policy No. 2 states, in part, that "[for] larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices." Further, Policy No. 3 states, in part, "[t]o protect public safety and ecosystem services, within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects...should be designed to be resilient to a mid-century sea level rise

projection. If it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise based on a risk assessment using the best available science-based projection for sea level rise at the end of the century." Policy No. 7 states, in part, "[u]ntil a regional sea level rise adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts. The following specific types of projects have regional benefits, advance regional goals, and should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding: (a) remediation of existing environmental degradation or contamination...; [and] (b) a transportation facility, public utility or other critical infrastructure that is necessary for existing development or to serve planned development...."

The document entitled *Port of Redwood City Wharves 1 & 2 Replacement Project Basis of Design — Wharf Structural Design*, dated January 2012 and prepared by Ben C. Gerwick, Inc., an engineering firm based in the San Francisco Bay Area, assessed the risks to the project and site taking into account current and proposed flood protection systems and under the following conditions: a 100-year flood level of +11.2 feet MLLW, a mid-century sea level rise of +1.53 feet MLLW, and a significant wave height of 0.9 feet (coinciding with other projected flooding events). An inundation map showing the 100-year tide, surge and sea level rise at the project site with construction of the seawall and similar shoreline protection at neighboring sites was also prepared.

In terms of degrees of uncertainty regarding the risk assessment, the permittee provides: "Projections of sea level rise become more uncertain after mid-century as sea level modeling results diverge. There are numerous factors which contribute to sea level rise and predicting the rate at which these factors may occur and influence sea level rise is one of the reasons for the uncertainty in future sea level rise predictions. These factors include future global greenhouse gas emissions and melting of ice sheets (in particular the Greenland and Antarctic Ice Sheets). As the study of sea level rise advances, the projections of sea level rise will likely change over time. Therefore, there is uncertainty in the use of sea level rise values. In our approach to the Port of Redwood City project, we fit a second-order polynomial to the California Climate Action Team's ranges and then calculated a mean value of predicted sea level rise for the year 2060. This value was used in our design. To account for uncertainty, the seawall proposed as part of this project will be designed and constructed to allow for an extension to be cast onto the top of the wall to provide additional protection in future years if sea level rise occurs at an accelerated rate."

Further, the risk assessment states regarding consequences of defense failure authorized herein: "There are no unusual consequences of failure of the new wharf with respect to life safety or the environment. This facility is deemed an ordinary facility with respect to emergency response and need not remain operational after a natural disaster such as a severe earthquake."

The resource agencies have reviewed and analyzed the project authorized herein for its impacts—and risks—on Bay resources. Section III.A.F below addresses this issue in greater detail.

The project involves the reconstruction of a wharf system at a port which has been in operation for 75 years. The reconstructed wharves are designed with an expected life of 50 years or through 2060. Wharves 1 and 2 are designed with a deck elevation of +16.0 feet MLLW. The seawall is designed to adapt to water levels exceeding +13.0 feet MLLW in that the construction will allow for a vertical extension when "rising sea levels reach

an elevation such that the 100 year tide and surge event in addition to the 100 year significant wave would cause overtopping.” Special Condition II.F ensures implementation of this adaptation measure. In addition, drainage features located behind the seawall will provide flooding relief, and, at upland areas, the finished floor elevation of the longshoremen’s building and parking lot authorized herein will be +13 feet MLLW to match the protection offered by the seawall. These adaptation mechanisms are intended to provide additional flood protection to upland areas.

Wharves 1 and 2, presently supported by timber pilings and constructed, respectively, in 1939 and 1942, are nearing the end of their useful design life and functionality. The project located at an area designated for port priority use in the Commission’s Bay Plan would modernize Wharves 1 and 2, allowing the permittee to better serve its tenants and customers, and achieve its anticipated throughput capacity identified in the Commission’s Seaport Plan, thereby achieving regional benefits by promoting economic growth in the Bay Area.

The Commission finds that the project, as conditioned, is consistent with its laws and policies regarding Climate Change.

- F. **Fish, Other Aquatic Organisms and Wildlife.** The Bay Plan Policy No. 1 on Fish, Other Aquatic Organisms and Wildlife states: “[t]o assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay’s tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.” Further, Policy No. 4 states, in part, that “[t]he Commission should: (a) consult with the California Department of Fish and Game [DFG] and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species...; (b) not authorize projects that would result in the ‘taking’ of any plant, fish, other aquatic organism or wildlife species listed as endangered or threatened pursuant to the state or federal endangered species acts...; and (c) give appropriate consideration to the recommendations of the [state and federal resource agencies]...to avoid possible adverse effects of a proposed project on fish, other aquatic organisms and wildlife habitat.”

On March 27, 2012, the USFWS concluded an informal Section 7 consultation finding that the project “is not likely to adversely affect” the threatened western snowy plover and the endangered California least tern because neither is “likely to nest near the proposed project area” and construction “is not likely to significantly disturb [their] foraging” areas. The USFWS came to the same conclusion regarding the endangered California clapper rail and endangered salt marsh harvest mouse because “no suitable tidal marsh habitat occurs within the immediate vicinity” of the project site. Further, the project includes construction measures to minimize potential impacts to California clapper rail at nearby sites (e.g., Bair Island and Greco Island). Specifically, the permittee will incorporate—and be required to implement pursuant to Special Condition II.G—the following measures in implementing the project authorized herein: for construction occurring in 2012, pile driving will not occur until after August 31, 2012, the end of the clapper rail nesting season; in 2013 (and thereafter), pile driving will cease at the beginning of January, two weeks before clapper rail surveys are typically initiated and pile driving will not occur during clapper rail breeding season, between February 1 and August 31, unless surveys show that rails are not present within 750 feet of the project site; and lighting will be installed at Wharves 1 and 2 designed to not increase light pollution on tidal marsh habitat at Bair or Greco Islands.



During the project development phase, a concern was raised about potential loss of roosting and breeding areas for special-status bat species during wharf demolition. Since that time, however, the Port has conducted surveys and determined that the bat species is not present nor are special restrictions on demolition necessary.

In addition, the permittee will employ the following measures to minimize potential impacts to resources during project implementation: (a) establish construction setbacks between the project site and the marsh areas located across Redwood Creek—a minimum of 100 feet and, where possible, up to 300 feet; (b) apply Best Management Practices (BMPs) to maintain water quality and prevent erosion at the project site, e.g., by using silt fencing and straw wattles; (c) install lighting fixtures with down-cast lighting, shields, and visors, and, if feasible, motion-sensitive detectors to mitigate potential lighting impacts on wildlife—particularly on migrating birds—; (d) operate machinery involved with the installation of riprap from a dry-land area; and (e) comply with a General National Pollution Discharge Elimination System (NPDES) permit, which includes BMPs to avoid degradation of aquatic habitat by maintaining water quality and controlling erosion. Special Condition II.G of this permit addresses implementation of these measures.

On April 9, 2012, the NMFS concluded an informal Section 7 consultation regarding potential impacts of the project on Essential Fish Habitat and concluded that “the proposed action would adversely affect EFH for various federally managed fish species” but because the construction would decrease over-water shading and remove creosote pilings from the aquatic environment, it would “benefit” EFH and, thus, NMFS did not recommend EFH conservation measures.

The Port’s technical specifications regarding pile-driving as authorized herein will include the following measures to minimize impacts on endangered or special status fish species: (a) the design-build team shall abide by the Interim Criteria for Injury to Fish from Pile Driving Activities, which limit construction-related sound exposure to 206 decibels (dB) peak and 187 dB accumulated sound exposure level for all listed fish weighing two grams or more; (b) the design-build team shall monitor the underwater sound levels at about 33 feet (10 meters) distance from the project site for the first five piles driven or for two full days of pile driving, whichever is greater, to demonstrate this criterion is met, and retain a qualified biological monitor to observe the installation of the piles during this time period to observe response from fish; (c) if needed to comply with the sound levels described above, the design-build team shall use a cushion, bubble curtain, jetting, or other methods to attenuate the sound at the project site; and (d) if the sound level criteria are exceeded during the demonstration, the permittee’s contractor will revise sound attenuation methods and monitor an additional five piles or for two days of pile driving, whichever is greater, until demonstration of compliance is obtained, and the demonstrated methods shall be used for the remainder of the pile driving. The NMFS communicated to the Commission staff that the above-cited measures would likely be adequate to complete its informal consultation for the project authorized herein. Although, at the time of mailing the Staff Recommendation, the NMFS had not officially completed its consultation, it did indicate to staff that the informal consultation would likely be complete prior to the Commission public hearing on May 3, 2012. Special Condition II.C requires that the permittee comply with the above-described measures and provide the Commission staff with the NMFS final informal consultation prior to project commencement.

The Commission finds that the project, as conditioned, is consistent with the Bay Plan policies regarding fish, other aquatic organisms, and wildlife.

- G. **Public Access.** Section 66602 of the McAteer-Petris Act states, in part, that "...existing public access to the shoreline and waters of the...[Bay] is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided." In addition, the Bay Plan policies on public access state, in part, that "a proposed fill project should increase public access to the Bay to the maximum extent feasible..." and that "access to and along the waterfront and on any permitted fills should be provided in and through every new development...whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts....In these cases, in lieu access at another location preferably near the project should be provided." Bay Plan Public Access Policy No. 5 states: "Public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding." Policy No. 6 states, in part, "Any public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby." The Bay Plan Public Access Policy No. 7 states, in part: "The [access] improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for persons with disabilities to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs." Policy No. 12 states, in part, that: "The Design Review Board should advise the Commission regarding the adequacy of the public access proposed." Lastly, the Bay Plan Port Policy No. 3 provides, in part, that: "Port priority use areas should be protected for marine terminals and directly-related ancillary activities.... Other uses, especially public access...should also be permissible uses provided they do not significantly impair the efficient utilization of the port area." In assessing whether a *public* project, such as the Port's proposed reconstruction of Wharves 1 and 2, would provide the maximum feasible public access consistent with the project, the Commission evaluates whether the public access is also reasonable given the scope of the project.

The Port of Redwood City consists of five wharves and associated upland support facilities. At various locations throughout its property, the Port has installed and maintains public access amenities, most of which are required, dedicated, and maintained through earlier Commission permits issued for various activities, including the reconstruction of Wharf 3, the installation of a shoreline protection system, the construction of roadway improvements, the construction of a restaurant, the installation of recreational boat facilities, and the construction of a loading pier. These public access facilities include a 5,400-square-foot public area with a shoreline pathway and landscaping, a 19,000-square-foot public area with a picnic area and pathway, a 6,000-square-foot area partly for viewing, public parking areas, and a 43,428-square-foot public area with pathways and landscaping. In addition, the Port has constructed and maintains separate public boat launch areas for motorized and non-motorized craft. Through the years, the Port has installed a comprehensive set of public access improvements at or near the proposed project site, which are generously-sized and well-used.

According to the Port: "The number of people and cars at the [project] site is dependent on the demand for aggregate [which is] related to the demand for building materials. While not directly related to the [proposed] project, should aggregate demand increase, an increase in the amount of trucks that haul aggregate away from the site as well as vessels that call to offload aggregate is likely." Further, "[t]here are significant public safety considerations associated with the project site. The primary public safety consideration on land is the potential for a pedestrian to be injured by heavy equipment. The main public safety consideration over water is the stored energy present in mooring

lines. In addition, the Coast Guard Security Plan restricts access to the wharf and requires that control measures be in place. Since the site is an aggregate offloading and stockpiling site, it is infeasible to safely provide public access to the shoreline.”

Therefore, as required in Special Condition II.B, the Port will improve existing public access amenities at a nearby site where dedicated access exists—pursuant to Commission Permit Nos. M1998.31.00 and M1987.046.02—but needs upgrading to, among other things, comply with standards of the Americans with Disabilities Act (ADA). Specifically, the Port will remove barriers to disabled visitors at a fishing pier and a bandstand, and redesign an approximately 450-foot-long section of an adjoining shoreline pathway making it barrier-free and improving its “connectivity” to other adjacent pathways. The Port will maintain these public facilities over time, including adapting or modifying or replacing them in response to flooding. The improvements required herein did not undergo review by the Commission’s DRB since implementation will result in upgrades to previously-reviewed and -approved public facilities. Prior to installation, however, the applicant will provide the Commission staff with detailed site plans for review and approval pursuant to Special Condition II. A and B of this permit.

In evaluating whether the access improvements required herein are “reasonable” for the project, the Commission staff considered the scope of the project, the total project cost of \$15 million, and the potential impacts of the project on existing public areas on Port property. The project will not result in a significant increase in the number of employees or associated staff at the project site. Further, the project includes a longshoremen’s building, which will provide an area on-site for employees to take meals and rest during off-duty hours.

The required public access improvements are characterized as “upgrades” to existing public access areas required and authorized in earlier Commission permits. The upgrades will qualify as “minor repairs and improvements” pursuant to the Commission’s Regulation 10601(b)(1) and, thus, will be authorized administratively by amending Commission Permit Nos. M1998.31.00 and M1987.046.02. Special Condition II.B requires the permittee to apply for and obtain amendments to these permits prior to January 1, 2013.

The Commission finds that the project, as conditioned, provides the “maximum feasible public access consistent with the project” and is consistent with its law and Bay Plan policies (Public Access and Ports) regarding public access.

#### H. Review Boards

1. **Engineering Criteria Review Board (ECRB).** The Commission’s ECRB reviewed the project on February 16, 2012. The Commission staff asked the ECRB to focus its review on the following three issues: (a) whether the project is designed to minimize the potential risk of near-term and future flooding over the expected life of the wharf, i.e., 50 years; (b) whether the structural and geotechnical design criteria address the load capacities of the wharves based on potential ground liquefaction and seismic loading; and (c) whether the project warrants installation of strong-motion sensors for the purpose of earthquake information and, if determined by the Board to be warranted, the best location for such sensors.

The ECRB considered whether the project’s structural and geotechnical design criteria will address the load capacities of the improvements based on ground liquefaction and seismic loading. The ECRB initially raised concerns regarding the shear strength of the Bay mud used in the slope stability analysis and raised questions about the shear velocity profiles used in the development of the site specific response spectra that determine the seismic design criteria. The ECRB approved the

design criteria, but it wanted assurance that the design-build engineering team (different from the design team) will comply with the seismic criteria reviewed at its February 16<sup>th</sup>, meeting. The ECRB requested assurance that the approved seismic criteria apply throughout the final stages when a design-build engineering team would assume responsibility for the project. In the event that the final engineering criteria change, the ECRB requested that the Port return for further discussion and concurrence. The Port agreed to the recommended approach. The ECRB also requested and the Port agreed to install seismic instrumentation at the wharves. The Port agreed to prepare an instrumentation plan for Commission staff review and approval. Special Conditions II.D and II.E ensure that the permittee will comply with the ECRB's recommendations.

- I. **Environmental Review.** The Port, as Lead Agency, determined that the preparation of an Environmental Impact Report (EIR) was necessary for the Wharves 1 and 2 replacement project. On April 29, 2009, the Port sent a Notice of Preparation to governmental agencies and other interested parties to solicit input and identify possible concerns to include in the EIR. The draft EIR was issued on March 15, 2010 and the final EIR completed on July 15, 2010. On April 27, 2011, the Port approved the Wharves 1 and 2 replacement project and filed a Notice of Determination. The City of Redwood City filed a NOD with the County of San Mateo on May 4, 2011, documenting City approval of the FEIR for the project in compliance with CEQA.
- J. **Conclusion.** For all the above reasons, the Commission finds, declares, and certifies that, subject to the special conditions stated herein, the project authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan*, the *San Francisco Seaport Plan*, the Commission's Regulations, the California Environmental Quality Act, and the Commission's Amended Management Program for the San Francisco Bay segment of the California coastal zone.

#### IV. Standard Conditions

- A. **Permit Execution.** This permit shall not take effect unless the permittee executes the original of this permit and returns it to the Commission within ten days after the date of the issuance of the permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.
- B. **Notice of Completion.** The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work.
- C. **Permit Assignment.** The rights, duties, and obligations contained in this permit are assignable. When the permittee transfers any interest in any property either on which the activity is authorized to occur or which is necessary to achieve full compliance of one or more conditions to this permit, the permittee/transferor and the transferee shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignees execute and the Executive Director receives an acknowledgment that the assignees have read and understand the permit and agree to be bound by the terms and conditions of the permit, and the assignees are accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the permit.
- D. **Permit Runs With the Land.** Unless otherwise provided in this permit, the terms and conditions of this permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

- E. **Other Government Approvals.** All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittee of any obligations imposed by State or Federal law, either statutory or otherwise.
- F. **Built Project must be Consistent with Application.** Work must be performed in the precise manner and at the precise locations indicated in your application, as such may have been modified by the terms of the permit and any plans approved in writing by or on behalf of the Commission.
- G. **Life of Authorization.** Unless otherwise provided in this permit, all the terms and conditions of this permit shall remain effective for so long as the permit remains in effect or for so long as any use or construction authorized by this permit exists, whichever is longer.
- H. **Commission Jurisdiction.** Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this permit. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction.
- I. **Changes to the Commission's Jurisdiction as a Result of Natural Processes.** This permit reflects the location of the shoreline of San Francisco Bay when the permit was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent of the Commission's regulatory jurisdiction. Therefore, the issuance of this permit does not guarantee that the Commission's jurisdiction will not change in the future.
- J. **Violation of Permit May Lead to Permit Revocation.** Except as otherwise noted, violation of any of the terms of this permit shall be grounds for revocation. The Commission may revoke any permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the permit has been effectively assigned. If the permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittee or its assignee if the permit has been assigned.
- K. **Should Permit Conditions Be Found to be Illegal or Unenforceable.** Unless the Commission directs otherwise, this permit shall become null and void if any term, standard condition, or special condition of this permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this permit becomes null and void, any fill or structures placed in reliance on this permit shall be subject to removal by the permittee or its assignee if the permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

- L. **Permission to Conduct Site Visit.** The permittee shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.
- M. **Abandonment.** If, at any time, the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the permittee, its assignee or successor in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct.
- N. **Best Management Practices**
1. **Debris Removal.** All construction debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement.
  2. **Construction Operations.** All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense.